# OmniWin 2020

Professional Designing and Nesting

OmniWin 2020 is a simple, clear and fast designing and nesting software, which adapts intelligently to your machine and your cutting needs. It takes over all cutting tasks for order-based production with CNC thermal cutting machines. OmniWin 2020 is effective and economical for small production runs in the machine and manufacturing industry, as well as in just-in-time manufacturing with changing quantities at custom cutting operations. You save time and materials and work with easy operations. OmniWin 2020 is the ideal tool for production planning with thermal cutting for oxyfuel, plasma and laser cutting with CNC machines.

IDEAL TOOL FOR PRODUCTION PLANNING

Thermal cutting workshops have to solve numerous tasks in work preparation, before the production on the machine can start. Part geometries must be designed or imported from customer drawings. Then the parts to be produced must be nested to minimize material usage. The NC nesting plan for the machine must ensure a fast, efficient processing with high cutting quality. While doing this, it should utilize the full technological capabilities of the machine, e.g. with the use of True Hole or Contour Cut.

SPEEDING UP AND SIMPLIFYING WORK PROCESSES

OmniWin 2020 combines the highest technical flexibility with fast, efficient processing. At the same time you will reduce your costs by minimizing material usage. The integrated operation with CAD, import and nesting for vertical and beveled parts permits a dramatic simplification of your working processes.
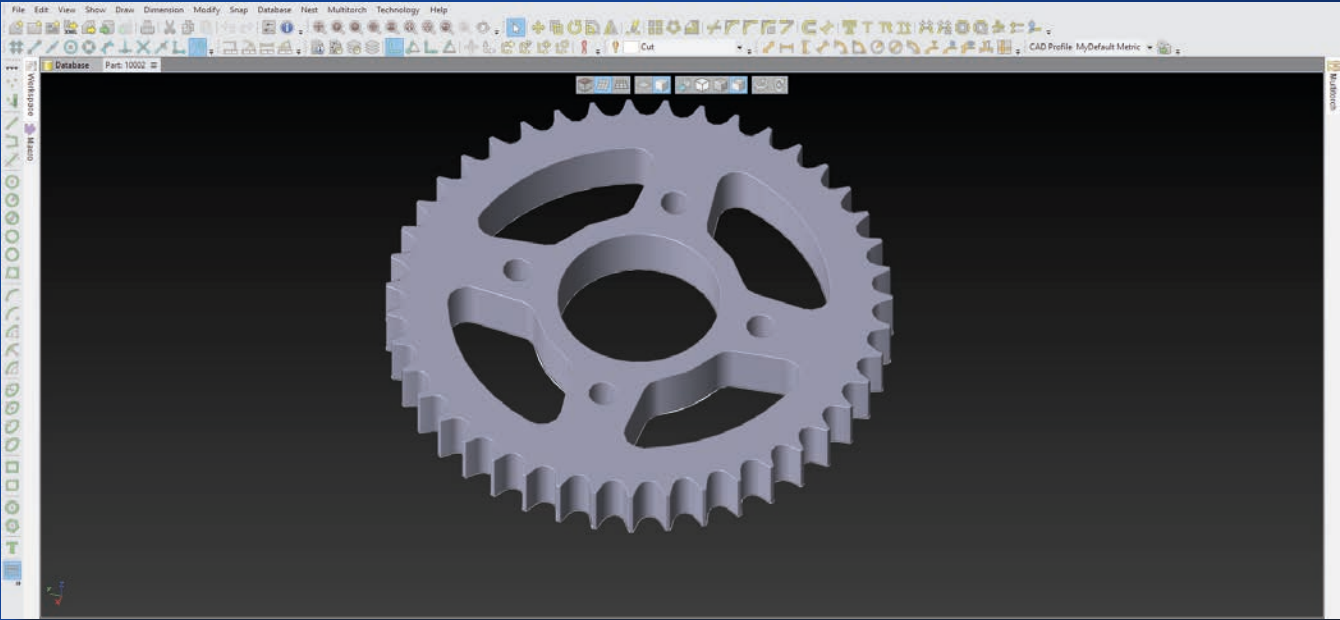
Language

List of language resources

- Čeština (Assist)
- Dansk (Assist)
- Deutsch
- English
- Español
- Français
- Nederlands (Assist)
- Norsk (Assist)
- Polski (Assist)
- Português
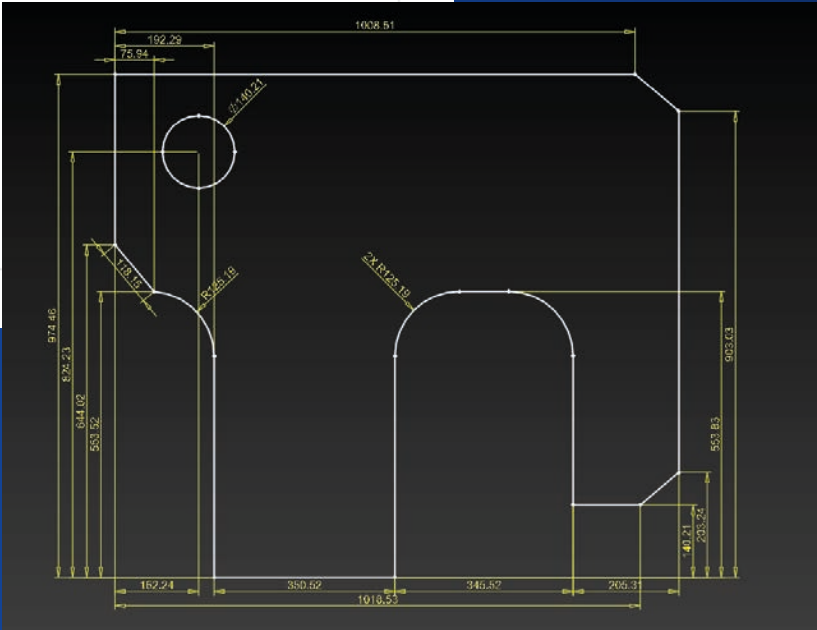- Slovenský (Assist)
- Svenska (Assist)
- Türkçe (Assist)
- Русский
- 中文

Current language

English

USER INTERFACE
AND DESIGN OF PARTS

EVERYTHING IN ONE USER INTERFACE

OmniWin 2020 provides you with a CAD system in which you have an integrated working environment for drawing parts, importing existing drawings, creating nesting plans and finally generating the NC output all within the same application. The operator interface with its clear overview is particularly practical here, it is available in numerous languages and its wide ranging functionality can be used intuitively for daily applications. OmniWin 2020 supports both the Metric (millimeter) and the Imperial system (inch).

DESIGN PARTS QUICKLY

With OmniWin 2020 you can create parts simply and quickly in the integrated CAD system. To do this, there are numerous positioning, drawing, modifying, grouping and labelling functions available, which are familiar from other professional CAD programs. Standard parts can be created in seconds using macros with variable parameters. You can apply automatic dimensions to parts or plates easily. Cutting requirements such as converting markings into closed contours or line contours are taken into account. A new 3D view for vertical and bevel parts gives you a realistic view of the part geometry.

PART IMPORT AND
CREATION OF NESTING PLANS

SIMPLE AND RELIABLE PART IMPORT

If a part drawing already exists in the form of a DXF, DWG, DWF, DSTV or IGES file then it is a simple task to bring it into the system with our integrated import function. The parts will be converted to the necessary format and with our automatic layer interpretation be allocated to the desired processes.

You are supported during import with various automatic error corrections and the possibility to take over component metadata as well.
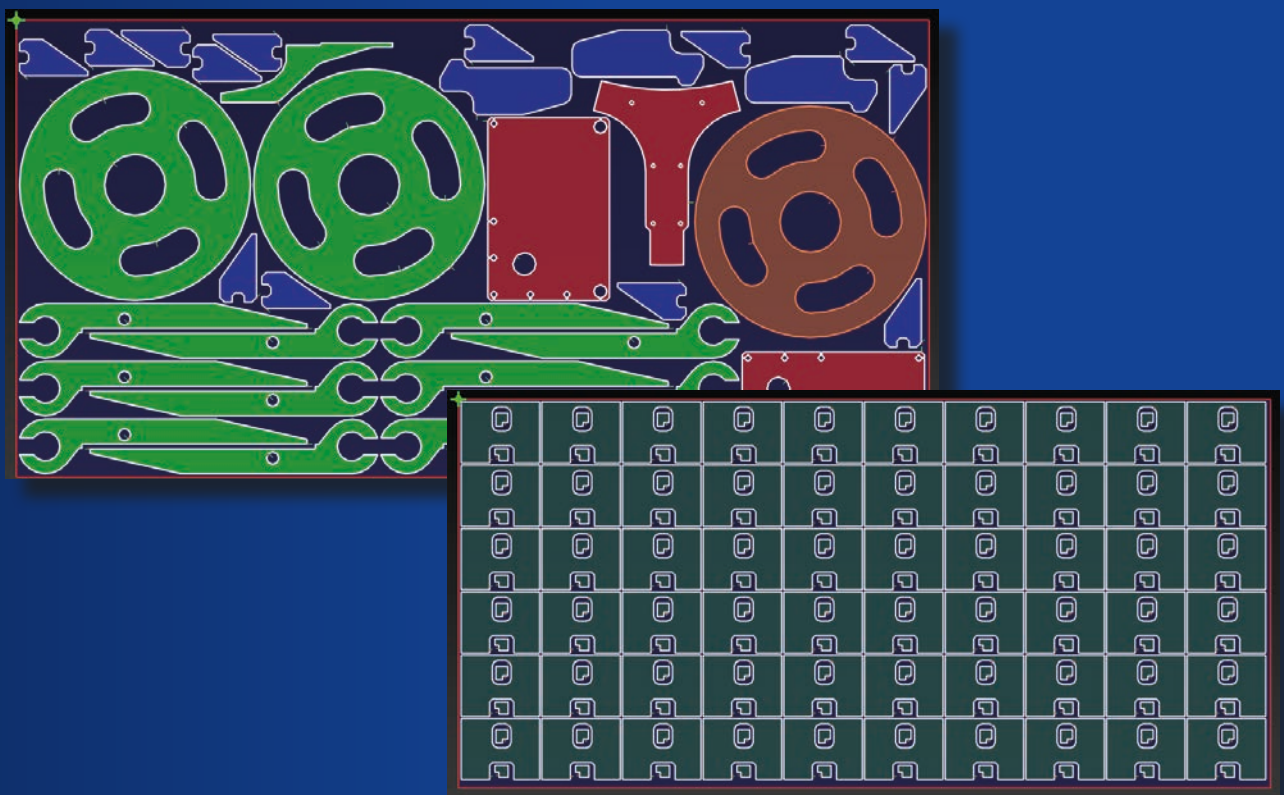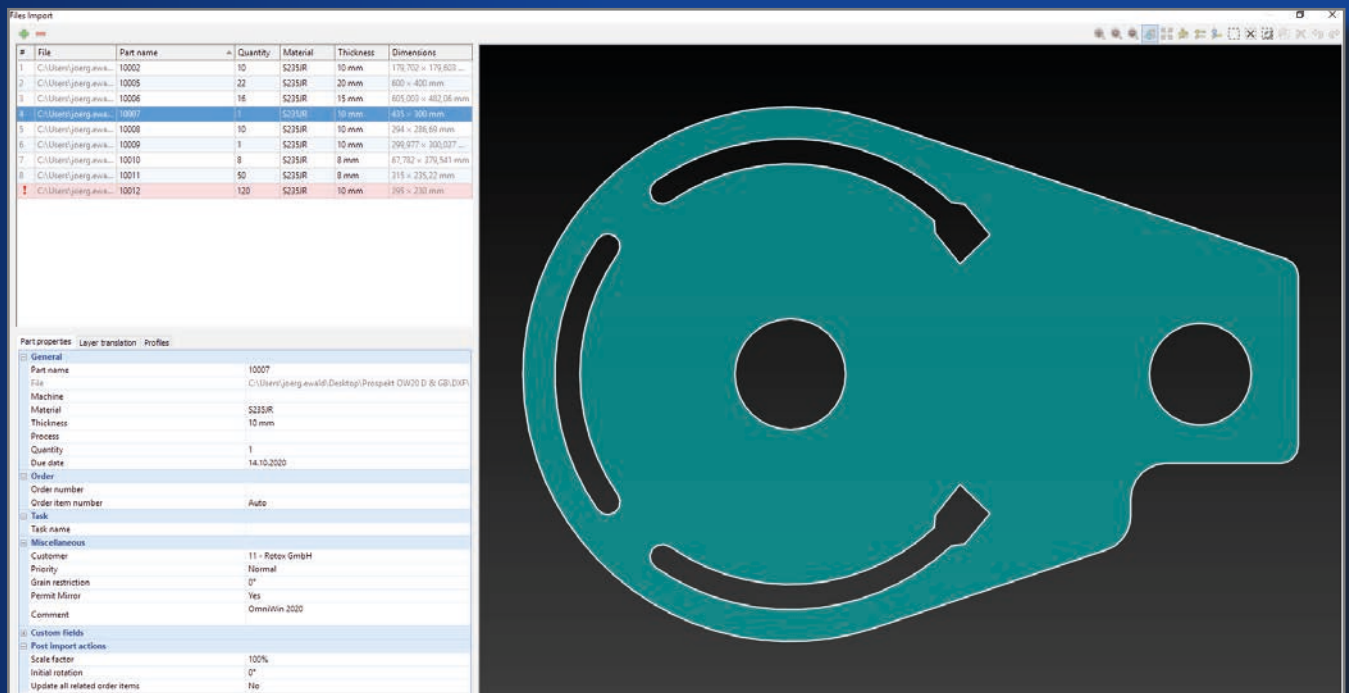
Import 3D parts and 3D assemblies from SolidWorks with integrated SolidWorks or or Autodesk Inventor interface.

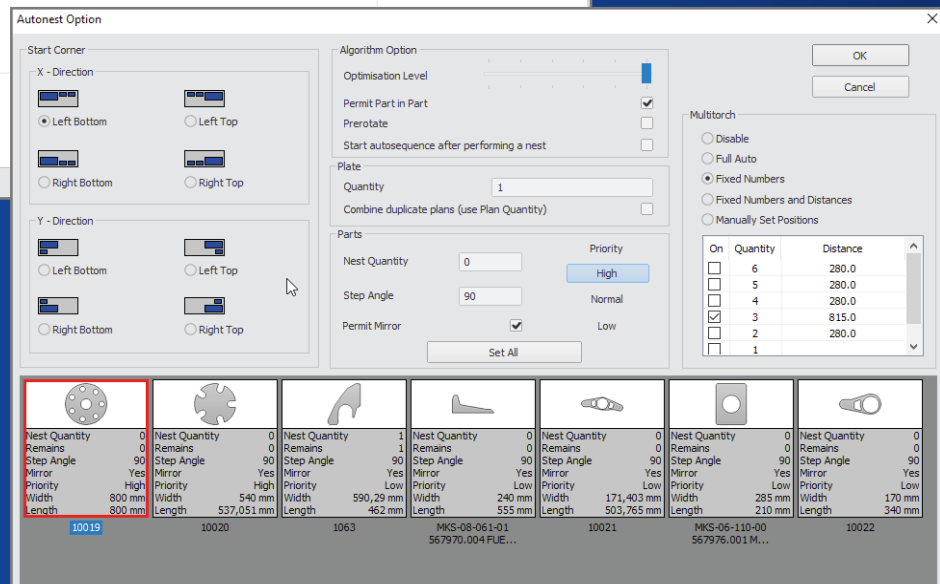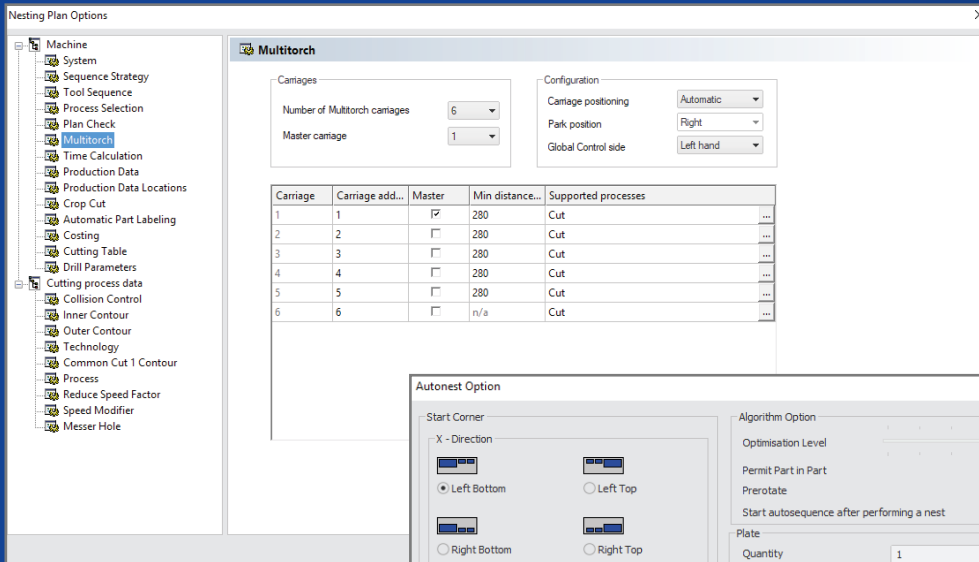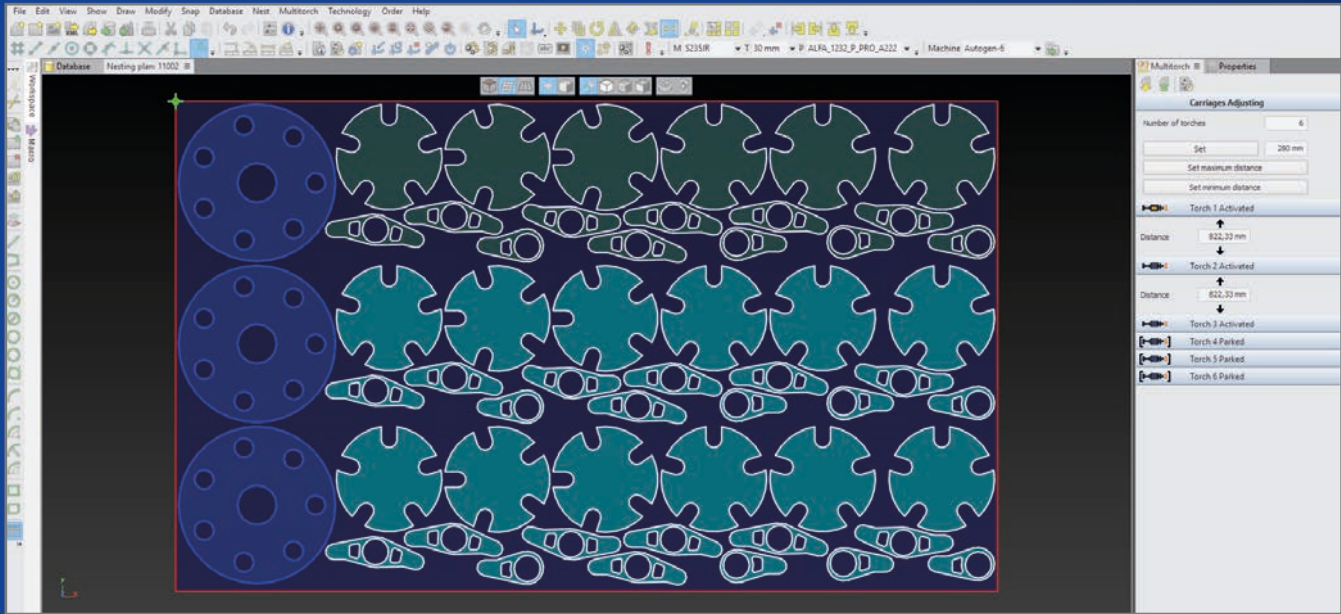### CREATION OF NESTING PLANS BECOMES CHILD'S PLAY

To create a new nesting plan it is only necessary for you to select your preset machine profile, the material and thickness used, and the cutting process. You can define the plate as new with rectangular dimensions or select it from the database. Finished!

You nest the parts out of an ergonomically designed work-space using Drag & Drop with automatic collision control. The part-part and part-plate distances, as well as the added lead-ins and lead-outs, with their shape and length, are determined by the parameters stored in the configurable technology database. Manipulation of parts such as copy, rotate, mirror, move with collision control is performed with one tool. The sequence of parts and contours can be defined manually or automatically, rule based.

OmniWin 2020 also allows individual modifications to the technology of single nested parts, which can then be applied to other identical parts. Messer Hole Technology can also be applied for the plasma cutting of circular inner contours to optimize the quality of the cut depending upon the unit used.
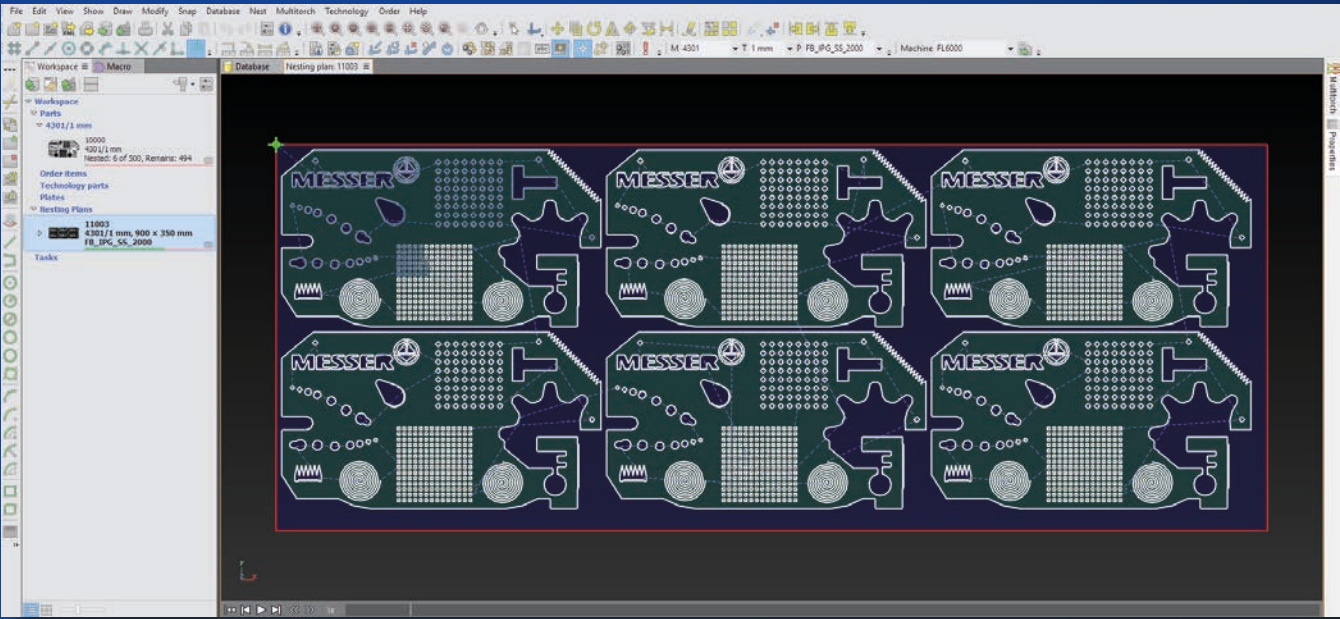
Nesting Plan Options

- Machine
  - System
  - Sequence Strategy
  - Tool Sequence
  - Process Selection
  - Plan Check
  - **Multitorch**
  - Time Calculation
  - Production Data
  - Production Data Locations
  - Crop Cut
  - Automatic Part Labeling
  - Costing
  - Cutting Table
  - Drill Parameters
- Cutting process data
  - Collision Control
  - Inner Contour
  - Outer Contour
  - Technology
  - Common Cut 1 Contour
  - Process
  - Reduce Speed Factor
  - Speed Modifier
  - Messer Hole

Multitorch

Carriages
- Number of Multitorch carriages: 6
- Master carriage: 1

Configuration
- Carriage positioning: Automatic
- Park position: Right
- Global Control side: Left hand

Carriage	Carriage add...	Master	Min distance...	Supported processes
1	1	☑	280	Cut
2	2	☐	280	Cut
3	3	☐	280	Cut
4	4	☐	280	Cut
5	5	☐	280	Cut
6	6	☐	n/a	Cut

Autonest Option

Start Corner

X - Direction
- ○ Left Bottom
- ○ Left Top
- ○ Right Bottom
- ○ Right Top

Y - Direction
- ○ Left Bottom
- ○ Left Top
- ○ Right Bottom
- ○ Right Top

Algorithm Option
- Optimisation Level
- Permit Part in Part ☑
- Prerotate ☐
- Start autosequence after performing a nest ☐

Plate
- Quantity: 1
- Combine duplicate plans (use Plan Quantity) ☐

Parts
	Priority
Nest Quantity: 0	High
Step Angle: 90	Normal
Permit Mirror ☑	Low

Set All

OK / Cancel

Multitorch
- ○ Disable
- ○ Full Auto
- ● Fixed Numbers
- ○ Fixed Numbers and Distances
- ○ Manually Set Positions

On	Quantity	Distance
☐	6	280.0
☐	5	280.0
☐	4	280.0
☑	3	815.0
☐	2	280.0
☐	1	

MULTIPLE TORCH NESTING
REDUCES PRODUCTION TIME

Nesting for machines with multiple identical torches is an integral component of OmniWin 2020. This supports both machines with and without automatic torch carriage positioning. Changing spacing between torches in the same plan and adding or subtracting active torches dynamically is possible. Automatic nesting also supports multiple torch operation. You get a highly optimized plan quickly with dramatically reduced production times.

Part ID	Preview	Part name	Count (nested)
1		10014	12
2		10001	3
3		10005	2
4		10006	1
5		10018	13
6		10017	3
7		10015	1

Plan name: 11001
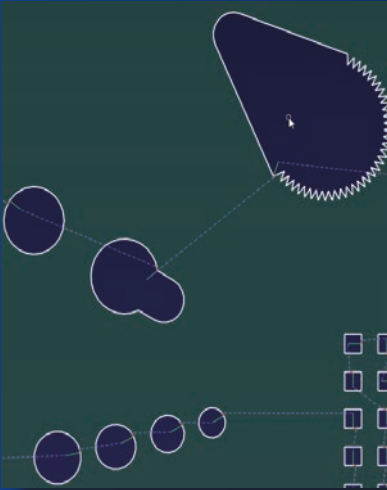
OMNIWIN 2020
STANDARD

INTEGRATED CAD-SYSTEM

- For the drawing and importing of parts
- Error correction, nesting of parts and creation of production data in a single application environment without additional steps or interfaces

SIMPLE AND INTUITIVE INSTALLATION AND OPERATION

- Parallel installation with previous version possible
- Data migration from the previous version possible
- User Interface available in numerous languages
- Metric (millimeter) and Imperial (inch) measurement systems

PROFESSIONAL NEW DESIGN OF PARTS

- Extensive collection of parameterized macros for fast definition of standard parts
- Extensive drawing functions for geometric shapes and labeling
- Support of absolute and relative as well as polar and ortho-gonal coordinates
- Conversion of text objects into closed contours and/or line contours
- Alignment of text objects to arcs
- A wide range of Zoom, Snap, Convert and Group functions e.g. trimming of protruding contours
- Insertion of dimensioning objects
- Automatic dimensioning
- Definition of bevel information and quality attributes on sub-contours
- 3D view of vertical cut or bevel parts
- Optional setting of start points per contour
- CAD profiles to support individual configurations

EASY IMPORT OF PART DRAWINGS

- 2D multiple file import of DXF, DWG, DWF, DSTV, and IGES
- 3D import of parts and assemblies
- Formats with automatic error correction
- SolidWorks or Autodesk Inventor interface
- Automatic/manual translation of layer to process information
- Transfer of part metadata from the drawing
- User configurable file handling such as renaming or deleting of files after a successful import
- Choice between import of a drawing or straight import into part database table
- Single import of DIN, ESSI, and XML Drawings
- Reading in of graphic files (incl. JPG, PNG) e.g. scans with recognition of part contours

COMPREHENSIVE MACHINE SUPPORT

- Cutting processes: Plasma, Oxyfuel and Laser
- Marking processes like Plasma, Punch Marker, Inkjet, Powder Marker, OmniScript, etc.
- Preconfigured postprocessors for standard machines
- Preconfigured individual machine profiles
- Preconfigured process database for Oxyfuel, Plasma, Laser
- Multitorch operation with manual or automatic carriage positioning and single marking tool
- Support for multiple plate supports on a machine

OMNIWIN 2020
STANDARD

INNOVATIVE NESTING WITH OPTIMUM USE OF AREA

- Interactive nesting with tools including collision control for fast copy, move, rotate of parts or groups of parts
- Mirroring of parts, nesting in rows or in a matrix
- Automatic creation of lead-ins and -outs based on material and thickness using database stored technology
- Automatic optimization of part, inner contour and process sequence
- Reduction of non-productive time by the optimization of rapid traverse movement as well as lifter time
- User selectable shapes, parameters and positions of lead-ins and lead-outs
- User selectable cutting direction
- Activate/deactivate contours
- Automatic corner rounding
- Transfer of part technology to identical parts in the same nesting plan
- Transfer of geometrical changes to identical parts on the same nesting plan
- Recalculation of lead-ins and –outs when material thickness is changed in the nesting plan
- Simulation of the nesting plan
- Precise control of cutting speeds for lead-ins and -outs
- Time calculation for standard, vertical cut parts based on geometry and the applicable process data such as cutting time, piercing time, machine specific times such as rapid traverse and activation time
- Technology parts: Easily reuse previously used technology on parts

EXTENSIVE PRODUCTION DATA AND REPORTS

- User based preview of NC programs and export of NC part plans, CSV, XML, DXF and DWG for nesting plans
- Machine profile based configuration of storage locations for production data
- Preconfigured production reports for parts and plans
- Automatic configured printing of reports
- Integrated report editor for easy manipulation of existing reports or creation of new reports

WORKSPACES AND PROFESSIONAL PRODUCTION DATABASE

- Dedicated workspace for drawings, parts, orders (Enhanced Edition), plates, combined parts and nesting plans for clearly arranged, fast and efficient use with quantity control
- Part, customer, plate, order (Enhanced Edition) and nesting plan management
- Search criteria based identification of required objects,
- Multi User Support
- Basd on Microsoft SQL Server 2012

PROCESSING OF CNC NESTING PLANS

- Import of existing plans
- ESSI and DIN formats are supported
- Interactive simulation of cutting, marking and rapid traverse
- Transfer of plan contours to part construction

Database ≡   Document: (none)

Workspace   Macro

Parts | Technology parts | Plates | Plans | Tasks | Customers | Profiles

All records with name containing 10 with material S235JR with thickness 20 mm with remain to nest greater than 0 ⊞ filter

Drag a column header here to group by that column.

Thumbnail	Name	Material / thickness	Status with progress	Status	Length	Width	Due date	Area
	10952-1	S235JR / 20 mm	3 of 100	Overdue	2.866 mm	856 mm	22.04.2020	1,1057 m²
	1061	S235JR / 20 mm	6 of 48	Partly nested	2.425 mm	2.100 mm	17.06.2020	2,9527 m²
	1058	S235JR / 20 mm	Not nested	Not nested	1.688 mm	1.688 mm	08.06.2020	0,8506 m²
	1051	S235JR / 20 mm	10 of 48	Overdue	1.168,138 mm	1.168,135 mm	24.04.2020	0,6698 m²
	1003	S235JR / 20 mm	16 of 48	Overdue	960,002 mm	720,001 mm	24.04.2020	0,3746 m²
	1050	S235JR / 20 mm	9 of 48	Overdue	845 mm	669,103 mm	24.04.2020	0,3818 m²
	1028	S235JR / 20 mm	3 of 48	Overdue	800 mm	450 mm	24.04.2020	0,3344 m²
	2610102	S235JR / 20 mm	Not nested	Not nested	800 mm	800 mm		0,4155 m²
	1042	S235JR / 20 mm	Completed	Completed	790,001 mm	335,57 mm	04.03.2020	0,148 m²
	10001	S235JR / 20 mm	Not nested	Not nested	760 mm	760 mm	14.10.2020	0,3204 m²
	20181101-01	S235JR / 20 mm	1 of 10	Partly nested	716,433 mm	347,418 mm		0,1842 m²
	2610101	S235JR / 20 mm	Not nested	Not nested	620 mm	300 mm		0,1484 m²

Workspace ≡   Macro

Workspace
  Parts
    S235JR/10 mm
      10004
      S235JR/10 mm
      Nested: 6 of 7, Remains: 1
      10007
      S235JR/10 mm
      Nested: 1 of 6, Remains: 5
      10009
      S235JR/10 mm
      Nested: 1 of 6, Remains: 5
      10008
      S235JR/10 mm
      Nested: 10 of 11, Remains: 1
      10002
      S235JR/10 mm
      Nested: 8 of 10, Remains: 2
    S235JR/20 mm
      10006
      S235JR/20 mm
      Nested: 0 of 16, Remains: 16
      10005
      S235JR/20 mm
      Nested: 0 of 22, Remains: 22
  Order items
  Technology parts
  Plates
  Nesting Plans
  Tasks

Workspace   Scan ≡

DIN | ESSI   Scan   ▶

G71
G90
#CS ON [V.A.ABS.X, V.A.ABS.Y, 0, 0, 0, V.E.ROTATION]
M190
G162
G141
G237
G00 X354.64 Y-1362.70
T23
M94 F1100
G41 D23
N1 M07
G261
G01 X367.72 Y-1375.79
G03 X369.84 Y-1375.79 I1.06 J1.06
M50
G03 X375.70 Y-1361.64 I-14.14 J14.14
G03 X355.70 Y-1341.64 I-20.00 J0.00
G03 X335.70 Y-1361.64 I0.00 J-20.00
G03 X355.70 Y-1381.64 I20.00 J0.00
G03 X369.84 Y-1375.79 I-0.00 J20.00
G03 X373.54 Y-1370.68 I-14.14 J14.14
M06
G03 X373.90 Y-1369.92 I-17.84 J9.04
G260
M08
G40
M51
M93
G00 X972.20 Y-1391.64
M64
T21
M65
M94 F1100

Workspace   Macro ≡

☰ ⊞   Macro

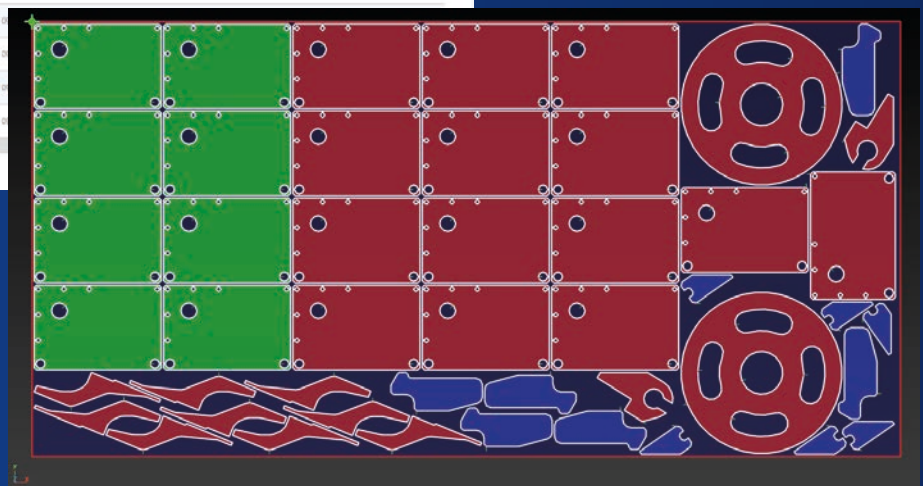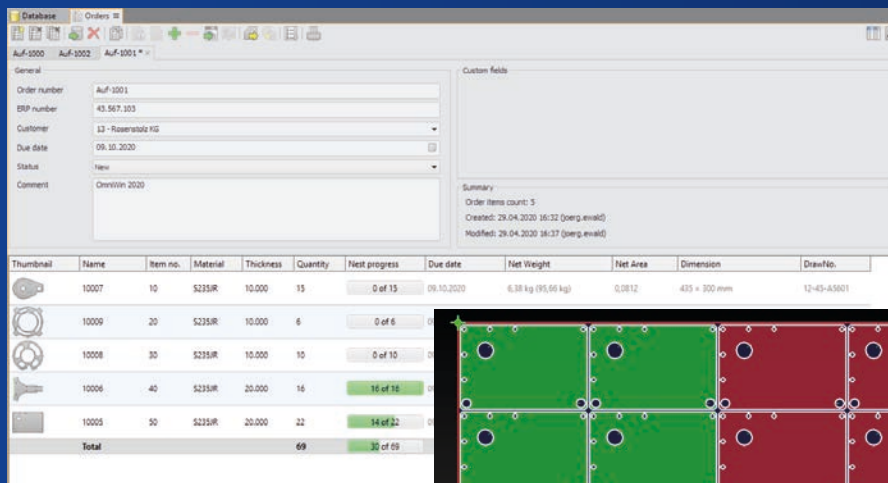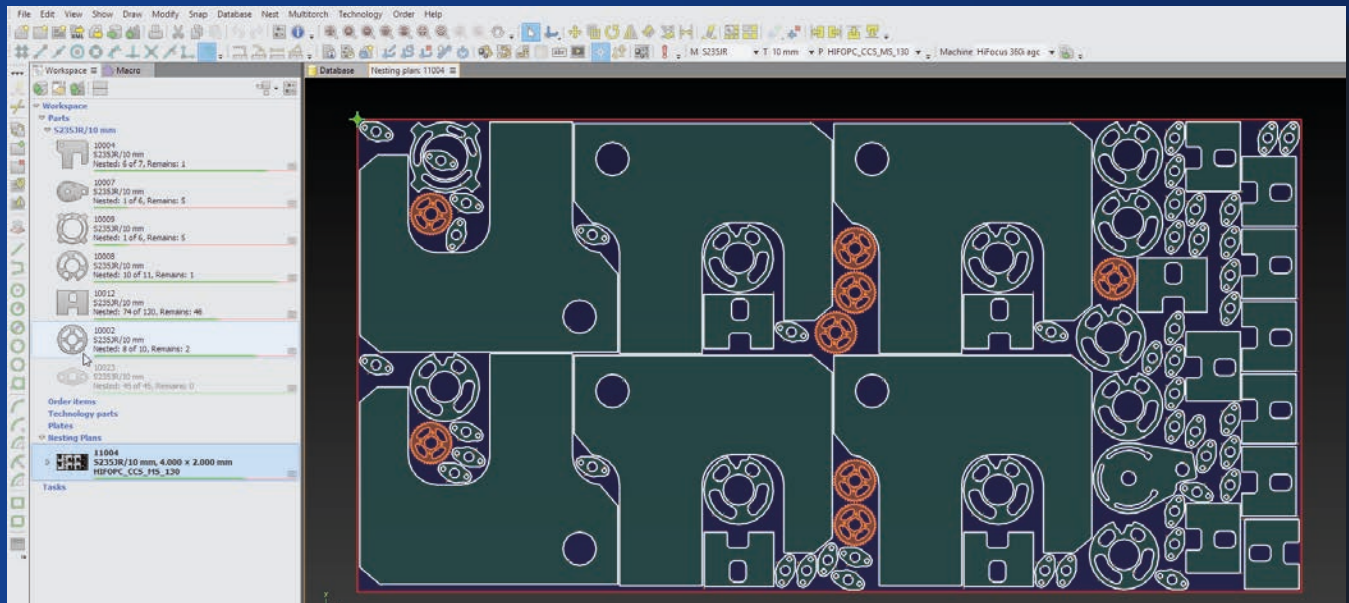| 0098 | 0099 | 0100 | 0123 | 0123a | 0124 |
| 0125 | 0201 | 1001 | 1004 | 1005 | 1006 |
| 1010 | 1011 | 1012 | 1015 | 1024 | 1028 |

Macro 1005

RA 30
AX 220
AY 180
BX 140
BY 80

OMNIWIN 2020
ENHANCED

- Autonest, the program for automatic nesting

- Best results and short computing times
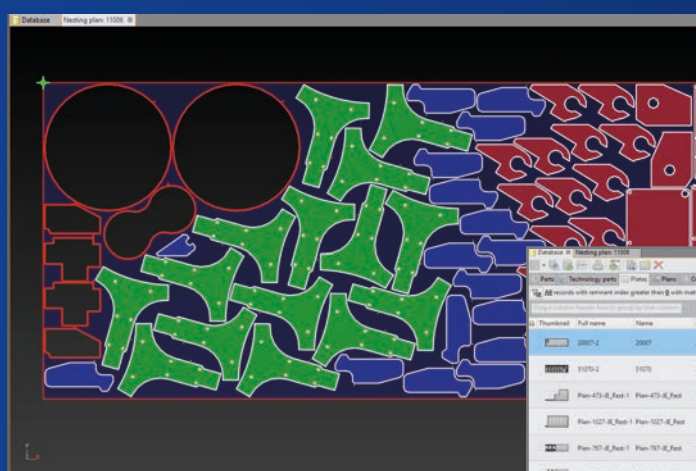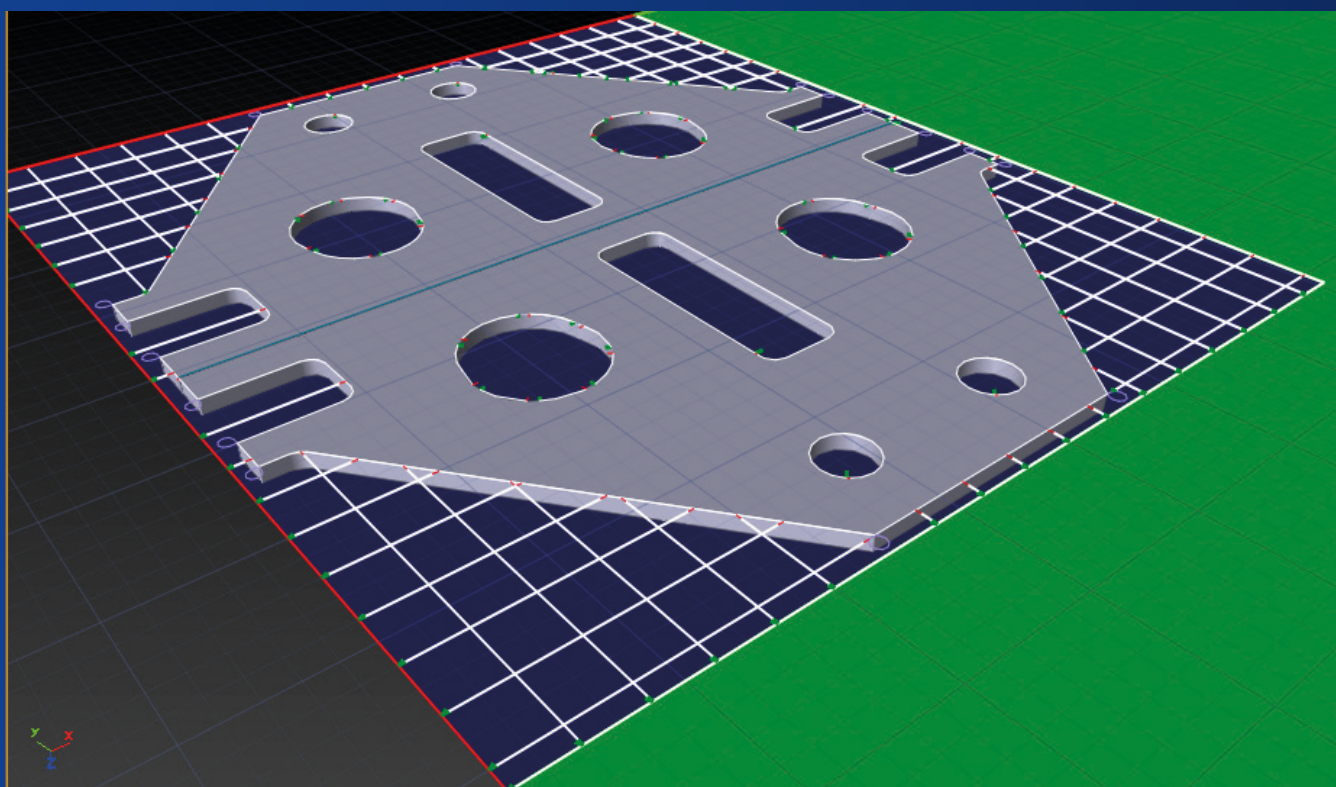
- Order entry and management including order tracking

OMNIWIN 2020
PROFESSIONAL

TECHNOLOGY AT ITS BEST

- Extensive technology functions for bridges, stitches, loops,

- Links, common cuts, corner loops,

- Skeleton splitting

- Pre-piercing

- Plate management including plate and remnant plate definition and remnant plate cutting

- Stone Mold Cutting

Option Package Bevel

- Completely integrated nesting of bevel parts in the standard, familiar workspace

- Uses OmniWin standard functionality present in the respective editions except for technology and cost calculation for standard vertical nesting plans

- Based on proven OmniBevel databases and postprocessing
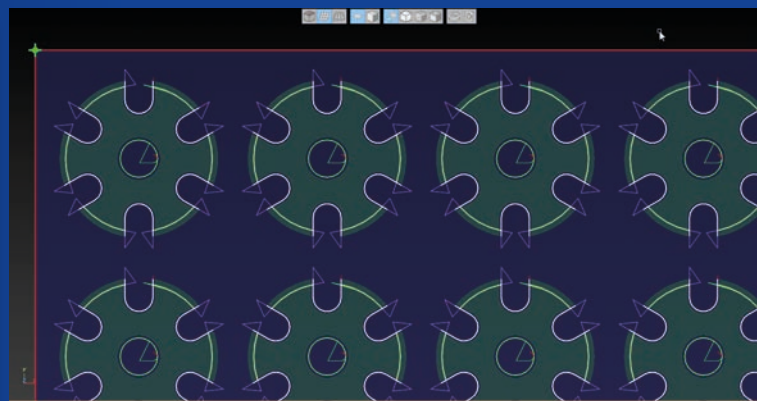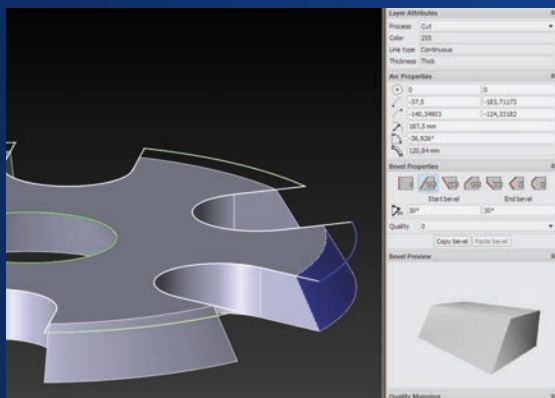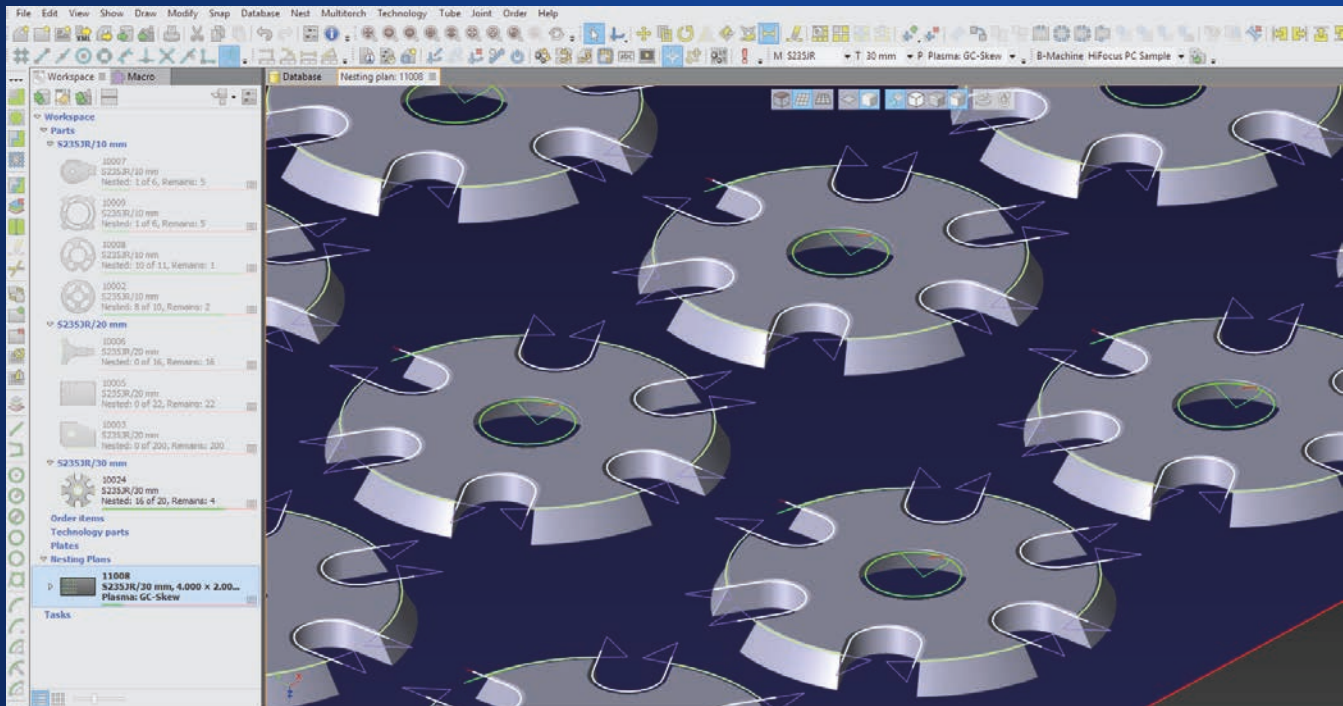
OPTION PACKAGE
BEVEL

With our Bevel option, you can nest bevel parts directly from the fully integrated OmniWin 2020 Edition you have selected. You nest, create reports and production data, manage and store parts, plates and plans in the database. OmniWin 2020 uses the same technological databases and postprocessors that are used by the stand-alone application OmniBevel. The integrated time calculation supports you by planning the cutting for bevel nesting plans.
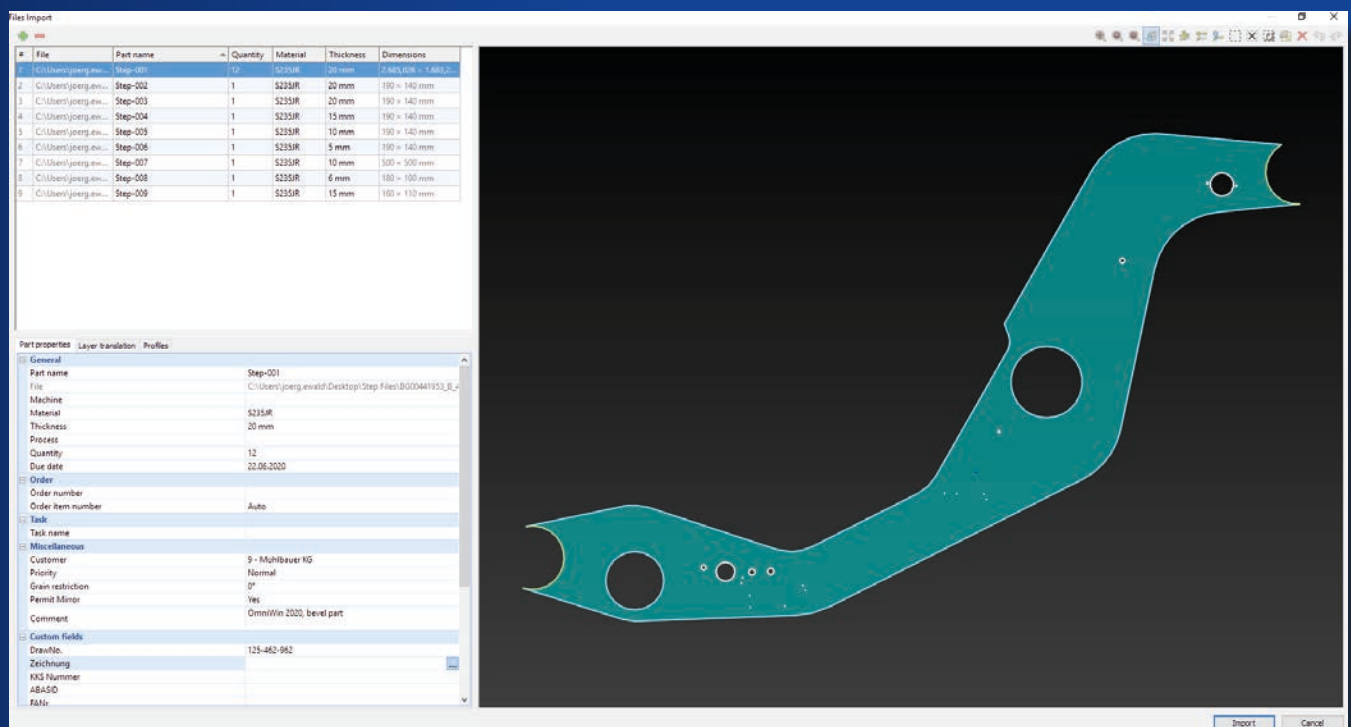
OPTION PACKAGE
STEP

With the product option STEP product option, 3D STEP files can be imported quickly and easily. Surface components, multi-body geometries and assemblies are supported.

STEP is a manufacturer-independent and standardized file exchange format. It is currently one of the most common formats for the transfer of CAD data worldwide and offers a high degree of flexibility.
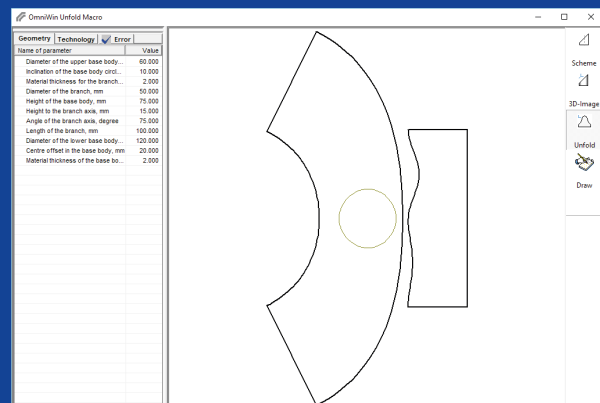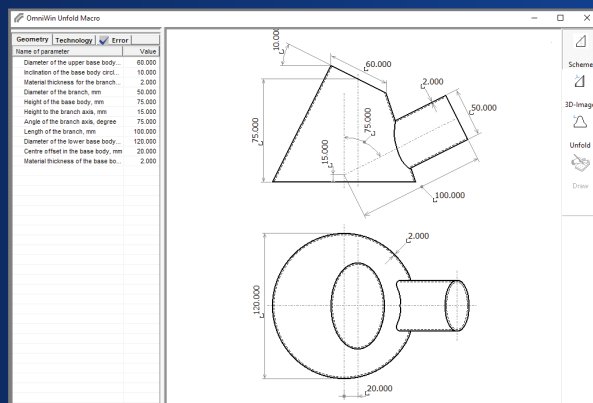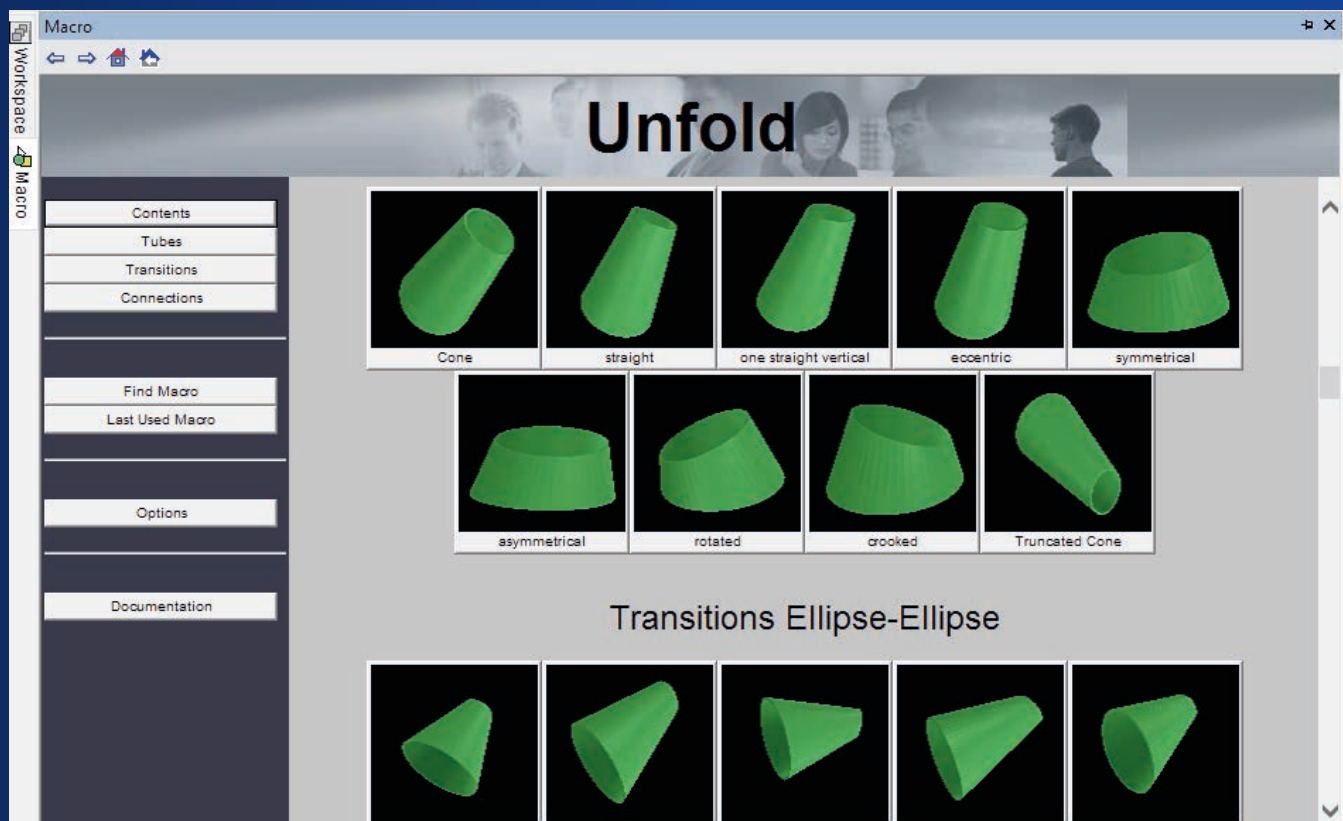
Option Package STEP

- Import of flat 3D geometries from Step files

- Flat parts

- Multi-body geometries

- Assemblies

- Simple bevels

Option Package Unfold

- Fully integrated unfolding and optimization of 3D shapes for 2D cutting and further

  manipulation by bending and rolling machines

- Large library of common shapes for container and ducting industries

- Sorting of geometric forms by category and subcategory

OPTION PACKAGE
UNFOLD

With our option package Unfold, we offer a broad integrated palette of 3D geometries that

are defined by parameter and finally are unfolded for 2D cutting.

Multiple technological functions are available to adjust the output for further manipulation

with bending or rolling machines.
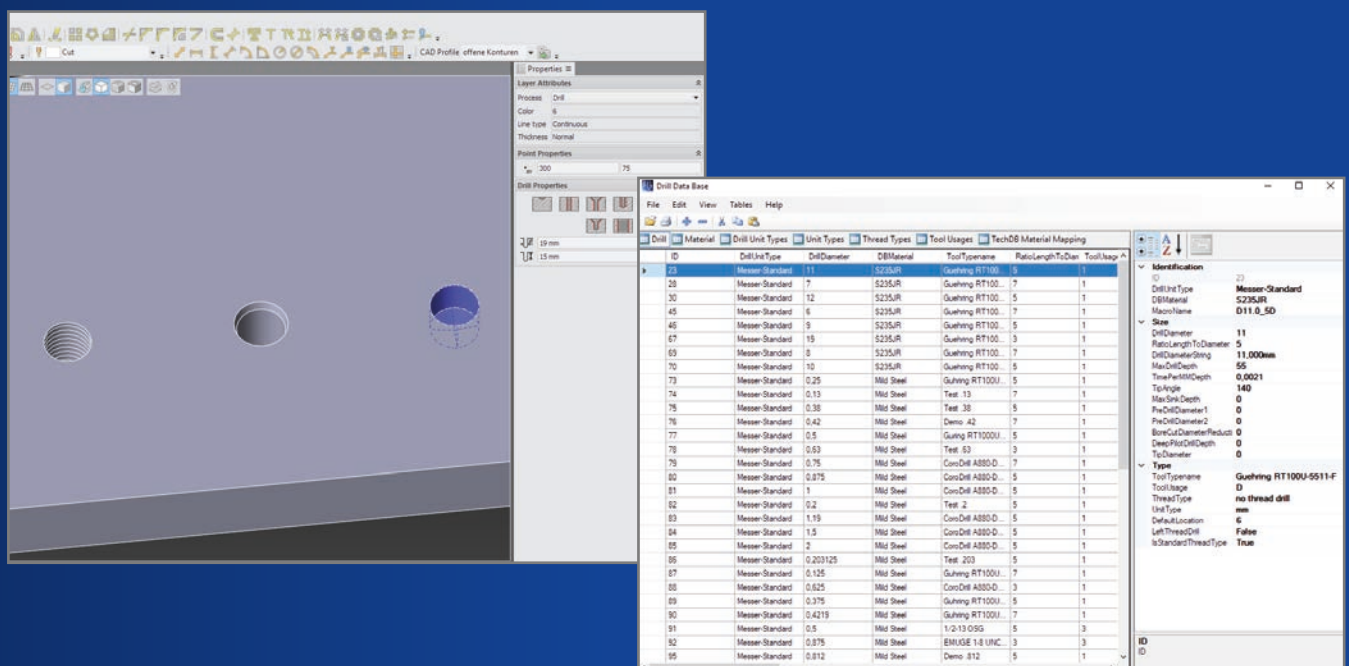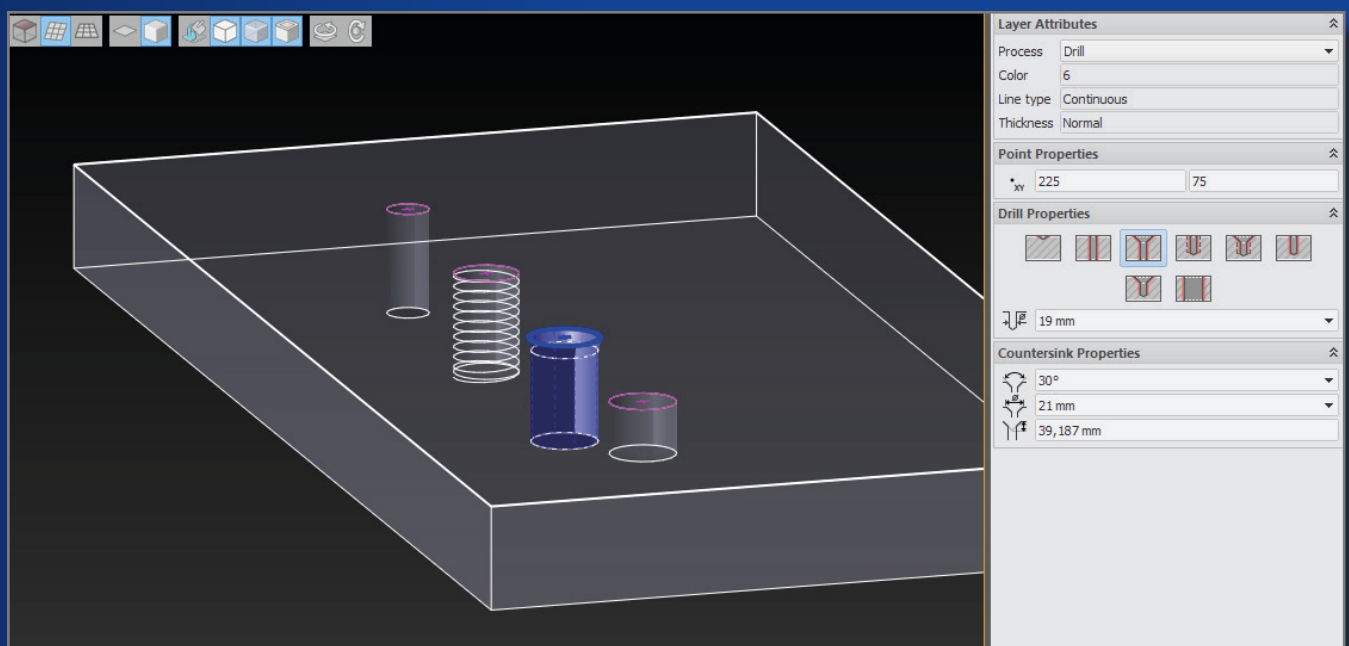
OPTION PACKAGE
DRILL

Import and produce all machine-supported drilling operations with the **Option Package Drill**.

Select your drilling operation together with the tools and nest the parts onto a plate. The parts

with their belonging drill operations can be displayed and checked with the 3D visualization,

integrated in the CAD system.

The postprocessors with drilling support ensure the optimum NC programs.
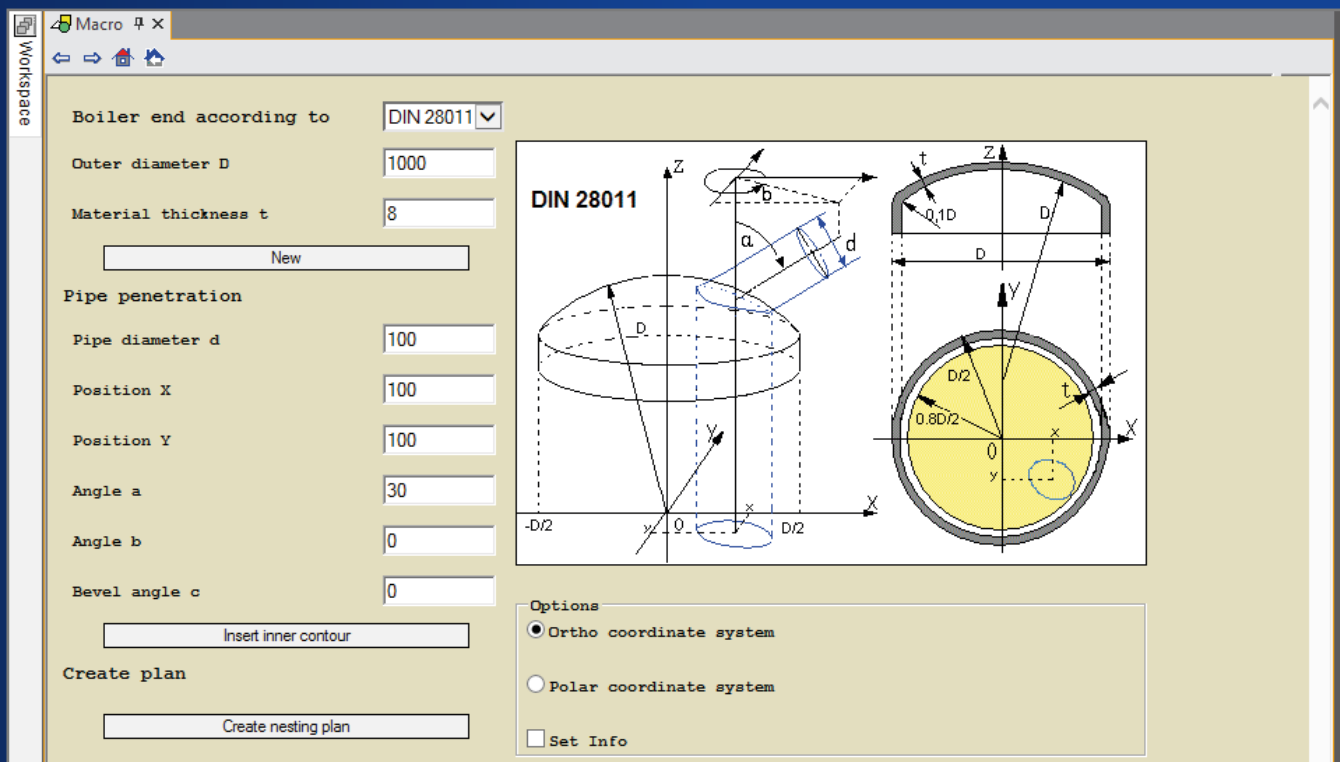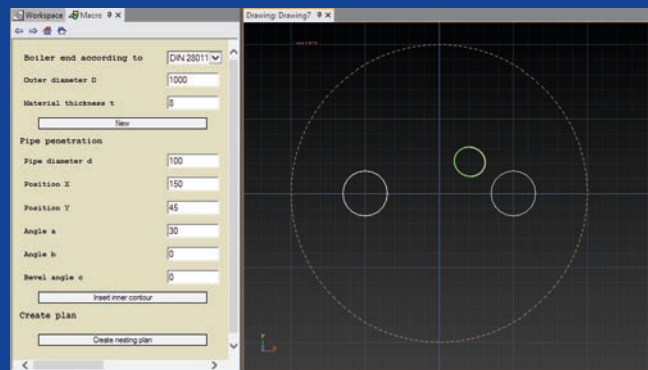
Option Package Drill

- Drill import

- Integrated drill tool database

- Draw drill points

- Holes, Countersink, Tapping, Deep Hole Drilling, Bore Hole Cutting

- Postprocessor support for drilling operations

Option Package Boiler End

- Supports dished ends in accordance with DIN 28011 and DIN 28013

- Cutting round cylindrical penetrations with or without additional VDS Fase.

- Marking of lines in the X / Y plane projected on the domed base or penetration

  projections of round cylinders to the ground.

- Available in addition to option package Bevel
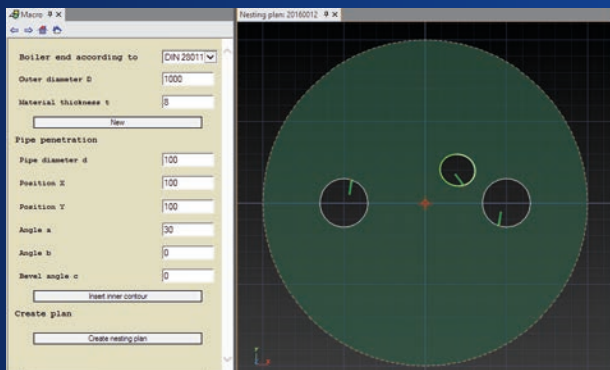
OPTION PACKAGE
BOILER END

Option Package Boiler End enables the processing of dished ends. Cylindrical pipe penetrations are automatically calculated on formed dished heads for the proper pipe location and alignment. NC code is output with varying bevel properties so a consistent weld seem can be created for the size and angle of the pipe.

Boiler End was developed specifically for the Skew Rotator Infinity and designed for the requirements of the tank and apparatus construction. It uses the properties of the Skew Infinitiy to expand production facilities, in addition to the existing processing of plates, to dish ends.

SYSTEM REQUIREMENTS
## AND FEATURES

Hardware requirements
- 1 GB RAM, 4 GB hard disk space, 2 GHz CPU
- Minimum screen resolution 1280 x 960 px, recommended 1680 x 1050 px or more
- Graphics processor with OpenGL 1.1 support or higher, without „shared memory"
- USB port for connecting a local software protection dongle or network access to a
   license server

Supported operating systems
- Windows 7 32 bit or 64 bit
- Windows 8 32 bit or 64 bit
- Windows 10 32 bit or 64 bit

Software prerequisites
- Microsoft Internet Explorer Version 7 or higher
- Microsoft .NET Framework 4.0 or 4.5
- Microsoft Jet 4.0 SP4 or higher
- Microsoft Office Access database engine 2007
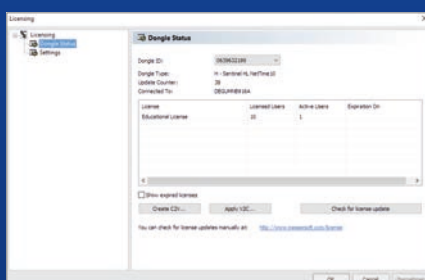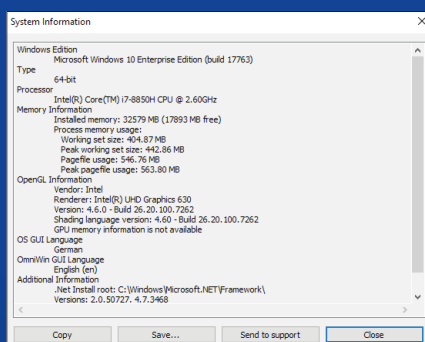
OMNIWIN 2020

		Standard	Enhanced	Professional
CAD	CAD Part and Plate Creation	X	X	X
	3-D Visual Rendering	X	X	X
	Standard Shapes Library	X	X	X
	Text Conversion for Cut-outs or Marking	X	X	X
	CAD Import - DXF, DWG, IGES, DSTV, SolidWorks* Part (SLDPRT) and Assembly (SLDAMP), Autodesk Inventor*	X	X	X
	Read and Translate Administration Data	X	X	X
	Import Images bmp, jpg, png, tif file formats	X	X	X
	Import TRUNEST DXF as Nesting with Single Part identification	X	X	X
	Reverse Import CNC files to DXF	X	X	X
	Excel Import of Parts and Plates (Orders with Enhanced Edition only)	X	X	X
	Automatic Dimensioning of parts and plates	X	X	X
CAD and Nesting	MS SQL Database for Parts, Nestings, Plates, Profiles and Machines	X	X	X
	Fast Reports® Creator	X	X	X
	Professional Designed Workspace	X	X	X
	Short Cut Keys	X	X	X
	Dimensioning	X	X	X
	Snap Modes	X	X	X
	Manipulator Tool for rotation, copy, move and mirror	X	X	X
Nesting	Process Database	X	X	X
	Messer Hole Technology supports True Hole® or Contour Cut	X	X	X
	Production Time Estimation	X	X	X
	Costing	X	X	X
	Automatic Lead-in/out with Customization	X	X	X
	Cut Plan Simulator	X	X	X
	Interactiv nesting (Row and Column, Pattern Matrix) with Single or Multi-Torch	X	X	X
	Collission Avoidance	X	X	X
	Process Optimization	X	X	X
	Modify Part, Interior Profile or Marking Sequence	X	X	X
	Technology Parts	X	X	X
	Automatic Nesting		X	X
	Stone Mold Cutting			X
	Stitch, Bridge, Common Cut, Corner Loops, Chain Cut, manual Crop Cut, Automatic Corner Rounding			X
	Skeleton Cut Up			X
	Pre-Piercing and Pre-drilling (Option Drill required)			X
	Remnant Plate Creation with Auto Crop Cut			X
	Work Order Processing with Order Database		X	X
Options	Option Bevel - Bevel Part Creation	•	•	•
	Option STEP Import - Import of 3D STEP Files	•	•	•
	Option Unfold - Unfold 3D Industrial Fittings	•	•	•
	Option Boiler End (requires Option Bevel) - Dome Cutting	•	•	•
	Option Mill - 2.5D Milling Support for Pocket Milling and Through Hole Milling (US only)	•	•	•
	Option Drill - Drill support	•	•	•

* A SolidWorls license is required with installation on the same PC

* An Autocad Inventor or viewer is required with installation on the same PC

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